

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1 (Original): An apparatus for passively cooling and retaining molten core material from a reactor, the apparatus comprising: a molten core material retention tank installed inside a reactor cavity to retain molten core material from the reactor vessel; a compressed gas tank having an outlet valve at an outlet thereof and supplying high-pressure inert gas; a cooling water storage tank being installed higher than the molten core material retention tank, having an outlet valve at an outlet thereof, and supplying cooling water; and a means for mixing inert gas supplied from the compressed gas tank with cooling water supplied from the cooling water storage tank and supplying the cooling water/inert gas mixture to the molten core material retention tank.

2 (Original): The apparatus of claim 1, wherein the molten core material retention tank includes: an outer retention vessel having at least one coolant hole formed in a side or bottom thereof and connected to the mixing means; a porous protection vessel formed of refractory material at an inside of the outer retention vessel; and a gravel layer formed between the outer retention vessel and the porous protection vessel, and filled with refractory gravels.

3 (Original): The apparatus of claim 2, wherein the gravels are filled in the gravel layer to distribute and support the load of molten core material retained in the porous protection vessel.

4 (Original): The apparatus of claim 1, wherein the mixing means includes pipes connected and extended respectively from the compressed gas tank and the cooling water storage tank.

5 (Currently Amended): The apparatus of claim 2, wherein the porous protection vessel is made by sintering refractory gravel or powder, and ~~on the surface of the protection vessel~~ a layer of sacrificial and water tight material is cemented on a surface of the protection vessel.

6 (Original): The apparatus of claim 2, wherein the outer retention vessel has a screen layer formed on an inner surface thereof.

7 (Original): The apparatus of claim 1, wherein the cooling water storage tank has a check valve installed at the outlet thereof so as to prevent the backflow of high-pressure gas.

8 (Currently Amended): The apparatus of claim 1, further comprising an intermediate storage tank, wherein steam generated by ~~the~~ a reaction between the molten core

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material and the cooling water is condensed into water and the condensed water is resupplied through the intermediate storage tank to the cooling water storage tank.

9 (Original): The apparatus of claim 8, wherein the intermediate storage tank has a filter installed in an upper side thereof to filter the condensed water through the filter, whereby the filtered water is resupplied to the cooling water storage tank